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World's fastest computer now widely accessible

If your computer gets bogged down by an enormous processing task, you can now buy time on and remotely access the world's fastest—Control Data Corp.'s Star-100. Since only four of these systems have been installed until now, the availability of this service via communications provides new computing capabilities for a wide variety of users with sophisticated requirements.

LINK-UP. Users can connect to the computer at Control Data's plant in Arden Hills, Minn., from locations throughout the world via the CDC's Cybernet communications network, using the CDC 200 communications protocol. The terminals compatible with the system are the CDC 200 types and oth-

ers that emulate them, such as CDC 734 terminals, IBM 1130 computer systems, Harris Corp.'s Cope system, and Data 100 Corp.'s line of intelligent terminals.

Because the Star-100 is the world's fastest computer—having just established a speed of 98.88 million operations per second and won its place in the Guinness Book of Records—it can solve problems requiring massive calculations that would take too long on ordinary machines. For example, special weather predictions that take more than 24 hours to compute on other systems can be processed by Star-100 in about an hour.

Typical applications that require a computer such as this are: seismic

data reduction and reservoir simulation for the oil industry, for which Star-100 can provide a 10- to 20-fold increase in throughput of several of the most time-consuming parts of the computations; nuclear reactor modeling, where the high speed provides an economical opportunity to study more unusual loading and contingency conditions than in the past; aircraft simulation, to study turbulence and structural deformation problems whose computation was not feasible before; rapidly-processed natural resource studies based on analysis of constantly updated satellite photographs; and many types of econometric modelling problems. ■



Users throughout the world can now remotely access the Star-100 through the facilities of Control Data Corp.'s Cybernet communications network.

Upkeep Weak Area

Mini Service Not Too Good

By Jon David

Special to Computerworld

Minicomputer technology has advanced to the point where minicomputers are one of the most reliable pieces of equipment available. Unfortunately, a minicomputer system contains much more than just a minicomputer and users often find that if a printer goes down, a disk goes down or whatever, the entire system is effectively unusable.

Minicomputer Exchange

When you combine the reliability figures, the entire system has a much lower reliability than its components.

Most end users look beyond the capabilities of an operational computer system and try to determine what will happen when the system goes down. Manufacturers' representatives normally respond to this with impressive reliability figures, normally expressed in mean time between failure hours, days or processing units.

Regardless of the reliability of a computer system, it surely will go down from time to time. When it goes down it should be brought up as quickly as possible, and this is a question of maintainability rather than reliability.

Minicomputer maintenance is probably the weakest area of the entire minicomputer field. There are, of course, many reasons for this to be true.

At one time, people did not buy a computer, they bought a Univac. These days we find many companies no longer have computer rooms, but rather have IBM rooms. Companies such as Univac and IBM have tended to introduce significant hardware changes fairly slowly.

What this means is the man trained on the mainframe hardware of today will be servicing virtually the same hardware a few years from now.

Not so in the minicomputer field. Although about a dozen companies can justifiably claim to make large computers, nearly a hundred companies can claim to make minis.

There are significant differences, from an engineering point of view, between minicomputers; to develop or maintain a competitive advantage, minicomputer

manufacturers regularly introduce new products with new engineering characteristics. We therefore have a situation where a maintenance person gets familiar with a piece of equipment just in time to see it discontinued.

Where do all the minicomputer companies come from? They tend to come from other minicomputer companies. When they form, they try to take with them the best representatives of their former companies. Obviously, this includes maintenance people. Similarly, as companies grow, they expand their service forces and normally do this by hiring the best they can from competitors.

Now, just as the best MG repairman might take a while to learn the characteristics of a Mercedes or a Cadillac, so do even the better computer service representatives take a while to learn new product lines. The minicomputer industry suffers from an environment with considerable maintenance force turnover and this hurts customer service.

Minicomputer manufacturers sell large quantities of equipment to OEMs. Some OEMs just buy the computer and use peripherals other than those obtained from the manufacturer. The manufacturer normally does not maintain such a system.

The OEM will usually service the system himself or arrange with a third party service company to service the system. In either case, since service is not done on a contract basis with the manufacturer, requests to the manufacturer for replacement parts normally get lowest priority, so even the most trivial repair may require a system to be down for an extended period.

Manufacturers' service organizations have their problems, too, and these problems are often not palatable to an end user.

All manufacturers train their personnel, but there is a tremendous difference between a merely trained service representative and one experienced with the particular systems and equipment being serviced. Experienced personnel tend to be in the minority because of both great personnel turnover and the introduction of new equipment.

Another problem is parts. Even if a manufacturer has a service department in your area, he may not have a parts depot; if he has a parts depot near you, there is no guarantee that he will have the part you need.

Reviewing the minicomputer service station, we find it is not too good. Although proven systems and equipment do not go down overly frequently, they do go down. The maintenance representative who shows up to service your equipment is often far less than expert with it. If you need a part, you frequently have to wait at least a day or two to get it.

Can you afford this? You have to. If a particular vendor guarantees he has a super special maintenance service package for end users, the world's most qualified service staff and largest parts depot or whatever, you can believe him. You can also believe the moon is made of green cheese. Expect to have service problems and plan for them.

The only way to minimize the likelihood you will be hurt by minicomputer service is to design your application and operational flow to guard against your system being down for a period of at least two days.

This may mean you must generate extensive printed reports for no other reason than their use, should the system go down; that you must store your data in an industry-compatible format on an industry-compatible device (such as a magnetic tape) so you may have key functions performed at another installation; that you must program in a "portable" higher level language so you may take your programs to another installation, and the like.

If your situation is sufficiently critical, you may have to buy a complete second system to act as backup for the first, should it go down.

Plan for it to be down, and you will be ready when it is down; assume it won't go down and you may find yourself in very, very serious trouble.

David is president of Minicomputer Industry National Interchange (Mini), a professional society treating minicomputers, microcomputers and associated technological techniques, and is also president of Systems RDI.

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User Can Be Loser When Buying System From Dealer

By Michael Dunlop

Special to Computerworld

With the specter of many unhappy minicomputer installations beginning to emerge, a buyer should exercise extreme caution before entering into a contract to purchase a minicomputer from a dealer by making sure the dealer is financially sound and has a good local reputation for completing the job.

Minicomputer Exchange

Together with the arrival of the latest generation of computers, the minicomputer, comes the minicomputer dealership.

On the surface, this dealership, whose purpose is to sell and supply programming and installation help locally for a particular manufacturer, seems to provide a very reasonable way for the manufacturer to market his products. But this marketing method may cause problems for the potential minicomputer purchaser.

Dealerships burgeoned when small mini makers faced severe financial problems during the recent recession. The vendors needed a rapid injection of cash together with increased sales and a reduction in accounts receivable, an area which has been a perennial problem in the computer business because of the difficulty of defining completion of a system and, hence, receiving payments.

To help alleviate this problem, some manufacturers decided a dealership program, regionally and nationally, would help solve short-term financial problems.

To set up a dealership, the mini maker must persuade a group of people or sometimes a small service bureau to buy a minicomputer cash-on-delivery (COD) or make a cash advancement and pay for subsequent orders with either COD or 30 days net as terms.

Noncompliance with these terms results in the loss of the dealership.

This action immediately generates sales for the manufacturer, improves his cash position and passes the receivables problem onto the dealer, who is sometimes

ill-equipped to cope with it.

Pyramid Selling

Some manufacturers employed salesmen to go out and sell dealerships by promising the dealer substantial return on his investment and easy entry into the lucrative and expanding minicomputer market.

Other mini makers offered large areas to the dealers, encouraging them to set up subdealerships.

These two strategies have started — perhaps not intentionally — a dangerous pyramid structure in which the potential purchaser of a minicomputer system can be the loser.

There are over 70 different minicomputer companies in the U.S. Although many are supported by reputable distributorship networks, some are taking on the guise of pyramid selling operations.

Financial Stability

Another problem area confronting the minicomputer dealer is financing.

Many of these operations are set up on capitalization of less than \$100,000. If an installation is unsatisfactory, then the buyer will not pay the dealer. The dealer has no alternative but to pay the manufacturer, however, so he is left with financing the computer.

If two unsatisfactory installations occur at the same time, a dealer could tie up between \$60,000 and \$80,000. If he also lost \$20,000 on a fixed-bid software contract, which is not unusual, it would not take a financial genius to predict the dealer's potential demise.

To prevent this problem, the dealer's terms with the purchaser have to be strict: payment for the computer on delivery, which frequently occurs before the computer programs have been completed.

By paying for the system before the programs are complete, the user has lost his best weapon against the dealer to ensure the satisfactory completion of programming.

Dunlop is president of Computer Information Center, Inc., a firm of consultants based in Bellevue, Wash.

UCC Looks to Bright Future After Demise of Datran

By Toni Wiseman

Of the CW Staff

DALLAS — University Computing Co. (UCC), rid of its financially impoverished sister firm, the Data Transmission Co. (Datran), has ambitious plans for the future, including the expansion of its role in the software package market.

Several weeks ago, when UCC's parent firm, Wyly Corp., announced its intention to dispose of Datran, UCC concurrently announced it had taken out a \$4.1 million loan in order to underwrite Datran financing while Wyly was seeking a potential buyer or investor, according to Mike Harvey, president of UCC's U.S. Group.

The mere fact that the bank lent UCC the money points to the group's financial stability, Harvey said, "since banks don't make loans unless they expect to be repaid.

"And our only means of repaying a loan, as the bank knows, is almost totally out of operating profits since our hardware is on long-term lease and we don't represent a large amount of tangible assets," he said.

"To be candid, [Datran's closing] is a benefit to us because a great many people in the marketplace have looked at UCC as the primary source of the financing of the start-up of the debt and what this does is cut that off as a future financial drain," Harvey stated.

Three Divisions

UCC's U.S. operations are separated into three divisions: Commercial; Scientific and Engineering; and Banking.

"Our concept of our business is that there are two things that set us apart from our competitors," Harvey said. "One is proprietary

software and the other is the quality of our service.

"In my concept, the combination of those two really form a nucleus and the various distinctions between the divisions really become simply different ways of delivering service and software to our customers," he said.

One way to deliver is to sell software as a package, another is to offer it over a communications line as a service and a third is to take over the complete management of a customer's data center on a facilities management basis and run UCC software on its computer, Harvey stated.

"In other words, what we really try to do in our product planning is define all the ways a product can be delivered to a customer as one of the decision criteria on that product," Harvey noted.

UCC's Commercial Division develops, packages, supports and sells software for IBM systems as well as a commercial version of a financial control package.

The division has 700 to 800 medium to large IBM equipment users who have purchased packages and some Burroughs users, he said.

Of the eight systems software and one financial packages, a number rated very high on the Datapro honor roll, Harvey noted, adding one has been on the roll for the last two years and one for three years.

The bulk of the Scientific and Engineering Division's business is centered in remote batch computer processing.

From a data center here comprised of five Univac 1108s and a Control Data Corp. 6600, the division operates over a nationwide network servicing a variety of high-speed remote terminals

in customer and UCC offices.

UCC-developed applications such as data base management and numerical control are available to the division's 1,000 customers along with proprietary software UCC has acquired under royalty agreements with other vendors.

The division also sells raw computer time, Harvey added.

This year the Scientific and Engineering Division has also been developing packaged software versions of the programs it runs as services in order to provide them as packaged licensed products, he said.

The Banking Division is really a combination of the first two divisions, Harvey said.

As well as servicing the banking industry with two data centers — one in Michigan and a smaller one here — the division offers software on a facilities management basis to small and medium-size banks.

Another part of the division is involved with the sale of proprietary UCC banking software packages covering such applications as commercial loans, installment loans, magnetic ink character recognition and customer information files, he said.

While UCC's European Group operates separately from the U.S. Group, the two have a fairly close relationship, Harvey said.

The international group is broken into two major operating entities, one based in Great Britain and the other in Switzerland.

The UK operation closely approximates the U.S.' scientific and engineering services, he said, while the Swiss operation consists primarily of computer services and its business is more commercially oriented.